

Notice of Allowability

Application No.

09/631,067

Examiner

Ismael Negron

Applicant(s)

KIMURA, HAJIME

Art Unit

2875



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed July 18, 2005.
2. ☒ The allowed claim(s) is/are 1-27.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed on July 18, 2005 has been entered. Claims 1, 8 and 9 have been amended. No claim has been cancelled, or added. Claims 1-27 are still pending in this application, with claims 1, 2, 5, 8-11 and 14-16 being independent.
2. The drawings were received on July 18, 2005. These drawings are acceptable.

Allowable Subject Matter

3. Claims 1-27 are allowed.
4. The following is an examiner's statement of reasons for allowance:

Applicant teaches an front illumination source for reflective LCD and optical sensor for reading objects, such source having a light source, a light guide plate and a prism plate in direct contact with the lower surface of the light guide plate. The prism plate includes a plurality of prism-shaped lenses having an equally-sided trapezoid cross section. The obtuse internal angle of the lenses being more than 90°, but less than the sum of 90° and the critical angle of the lens.

A second embodiment is disclosed featuring a plurality of axially-symmetric prism-shaped lenses having side surfaces formed by opposing curved lines in a cylindrical or rotational manner. The curved lines are defined such that the angle formed by a line normal to a point on one curve line and the line defined by such point and the

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intersection point of the minor base of the lens and the opposing curve line, is within 3° of the critical angle for the lens.

No prior art was found teaching individually, or suggesting in combination, all of the features of the applicants' invention, specifically an equally-sided trapezoid prism lens having an obtuse internal angle of more than 90° , but less than the sum of 90° and the critical angle of the lens, or the sides of the lens being curved lines with the angle formed by a line normal to a point on one curved line and the line defined by such point and the intersection point of the minor base of the lens and the opposing curve line, is within 3° of the critical angle for the lens, in combination with the claimed front light structure.

Beeson et al. (U.S. Pat. 5,396,350) discloses a transmissive LCD back illumination source, such source having a light source, a light guide plate and a prism plate in direct contact with the upper surface of the light guide plate. The prism plate includes a plurality of prism-shaped lenses having an equally-sided trapezoid cross section. The obtuse internal angle of the lenses being more than 90° , but less than the sum of 90° and the critical angle of the lens. However, Beeson et al. features a back light for transmissive LCD. No motivation was found to use or combine the back light structure of Beeson et al. with a front light device, as claimed in the instant application.


5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ismael Negron whose telephone number is (571) 272-2376. The examiner can normally be reached on Monday-Friday from 9:00 A.M. to 6:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra L. O'Shea, can be reached on (571) 272-2378. The facsimile machine number for the Art Group is (703) 872-9306.

7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications maybe obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, go to <http://pair-direct.uspto.gov>. Should you have questions on access to Private PAIR system, contact the Electronic Business Center (EBC) toll-free at 866-217-9197.



THOMAS M. SEMBER
PRIMARY EXAMINER


Inr

August 29, 2005